

REMARKS

Claims 1-3 and 5-13 are now pending in the application. Claims 1-3, 5-10 and 12-13 are amended herein. Claim 4 is cancelled herein. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

STATUS OF THE APPLICATION

The Examiner states that the present application is a divisional of application 10/205,089 filed on July 24, 2002. See page 2 of the Office Action. Applicants note that this statement is incorrect. The present application is not a divisional application and is not otherwise related to application 10/205,089 filed on July 24, 2002. The present application claims priority to Japanese Patent Application No. 2003-064136 filed March 10, 2003.

REJECTION UNDER 35 U.S.C. § 112

Claims 1-13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

Claims 1-13 are rejected as indefinite due to the term “optical device.” Applicants note that claims 1-3, 5-6, and 8-10 are amended herein to call for first and/or second optical devices. Moreover, Applicants submit that the term “optical device” is more than adequately described in the specification of the present application. See at least paragraph 15 of the present application. Thus, Applicants submit that one of ordinary

skill in the art having the benefit of reading Applicants' specification would completely understand that which Applicants regard as the claimed invention. Accordingly, Applicants respectfully submit that the claims conform with 35 U.S.C. § 112, second paragraph.

Applicants, therefore, respectfully request reconsideration and withdrawal of this rejection.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith et al. (U.S. Pat. No. 5,904,545). The Examiner also references Lebduska (U.S. Pat. No. 3,963,308). This rejection is respectfully traversed.

Claim 1 calls for a manufacturing method of an optical communication module including providing a tapered through-hole in a substrate, the tapered through-hole having a first opening in a first side of the substrate and a second opening in a second side of the substrate. Claim 1 further calls for the method to include housing a first optical device within a tapered through-hole and inserting an optical transmitter in the tapered through-hole. Applicants submit that the references fail to disclose or otherwise suggest a method for manufacturing an optical communication module including a substrate having a single tapered through-hole for housing or receiving an optical device and an optical transmitter as claimed. For example, Smith et al. discloses a structure having an aperture 139 for a gallium arsenide block 127 and a tapered aperture opening 123 for a fiber optic cable 141. See at least Figure 11 and column 13, lines 25-45 of the Smith et al. reference. Accordingly, for at least these reasons,

Applicants submit that claim 1 is not obvious in view of the references.

Claims 2 and 5-11 all depend from claim 1 and, therefore, for at least the same reasons state above with respect to claim 1, should also be patentable.

Furthermore, claim 2 calls for housing a second optical device in the tapered through-hole. Applicants submit that the references do not disclose or otherwise suggest housing two optical devices and inserting an optical transmitter in a single tapered through-hole of a substrate as claimed. Accordingly, for these additional reasons, Applicants submit that claim 2 is not obvious in view of the references.

Claim 3 calls for a manufacturing method of an optical communication module including providing a double-ended tapered through-hole having a constriction portion inside of a substrate, a first opening in a first side of the substrate, and a second opening in a second side of the substrate. Claim 3 further recites housing a first optical device between the first opening and the constriction portion and a second optical device between the second opening and the constriction portion. Additionally, claim 3 calls for inserting an optical transmitter in the second opening. Applicants submit that the references do not disclose or otherwise suggest housing or inserting two optical devices and an optical transmitter in a double-ended tapered through-hole as claimed. For example, Lebduska discloses a device for coupling two ends of a multi optical-fiber cable. See at least Figure 1 and the Abstract of the Lebduska reference. Accordingly, for at least these reasons, Applicants submit that claim 3 is not obvious in view of the references.

Claim 12 calls for an optical communication module including an electrode wiring for an optical device formed from one of a first opening and a second opening along an

internal wall of a tapered through-hole. Claim 13 calls for an optical communication module including an electrode wiring for an optical device that is formed, at least, from one of first and second openings along an internal wall of a double-ended tapered through-hole. Applicants submit that the references do not disclose or otherwise suggest an electrode wiring along an internal wall of a tapered through-hole or a double-ended tapered through-hole as claimed. Accordingly, for at least these reasons, Applicants submit that claims 12 and 13 are not obvious in view of the references.

Applicants, therefore, respectfully request reconsideration and withdrawal of the rejection.

CONCLUSION

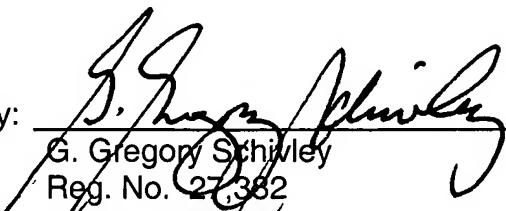
It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner

believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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